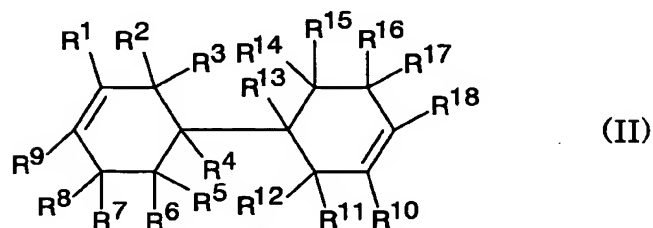
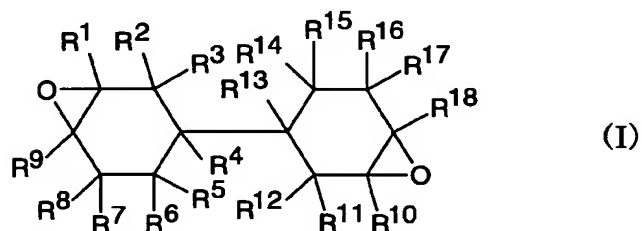


# CLAIMS

1. A process for preparation of an alicyclic diepoxy compound represented by a general formula (I):



(wherein, each of  $R^1$  to  $R^{18}$ , which may be the same or different, represents a hydrogen atom, a halogen atom, a hydrocarbon group that may contain an oxygen atom or a halogen atom, or an alkoxy group that may have a substitutional group), characterized by comprising:

epoxidizing an alicyclic diolefin compound represented by a general formula (II) described above with an organic percarboxylic acid.

2. A process for preparation of an alicyclic diepoxy compound according to claim 1, wherein the organic percarboxylic acid is obtained by oxidation of a corresponding aldehyde with oxygen, and the organic percarboxylic acid contains substantially no water.

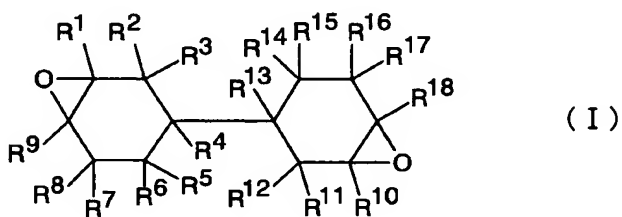
3. A process for preparation of an alicyclic diepoxy compound

according to claim 1 or 2, wherein a water content of the organic percarboxylic acid is 0.8% by weight or less.

4. A process for preparation of an alicyclic diepoxy compound according to claim 1, wherein the organic percarboxylic acid comprises peracetic acid.

5. A process for preparation of an alicyclic diepoxy compound according to claim 4, wherein the peracetic acid comprises an ethyl acetate solution.

6. A curable epoxy resin composition, characterized by comprising:  
an alicyclic diepoxy compound (A) represented by the following general formula (I):



(wherein, each of  $R^1$  to  $R^{18}$ , which may be the same or different, represents a hydrogen atom, a halogen atom, a hydrocarbon group that may contain an oxygen atom or a halogen atom, or an alkoxy group that may have a substitutional group);

a thermal cationic (b1) or photocationic (b2) polymerization initiator (B) or an acid anhydride (C); and

an additional epoxy resin (D) which may be added optionally.

7. A curable epoxy resin composition according to claim 6, wherein the alicyclic diepoxy compound represented by the formula (I)

comprises bicyclohexyl-3,3'-diepoxide.

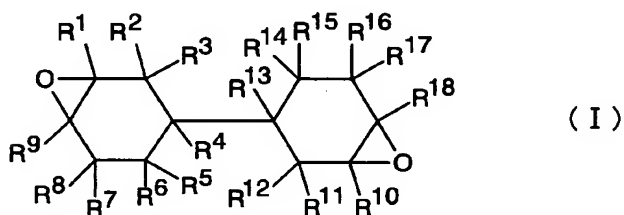
8. A curable epoxy resin composition according to claim 6 or 7, wherein the photocationic polymerization initiator comprises a sulfonium salt-based photocationic polymerization initiator.

9. A curable epoxy resin composition according to claim 6 or 7, wherein the acid anhydride comprises methylhexahydrophthalic anhydride.

10. A cured product obtained by curing the curable epoxy resin composition according to any one of claims 6 to 9.

11. An epoxy resin composition for encapsulation of electronic parts, comprising:

an alicyclic diepoxy compound (a) represented by the following general formula (I):



(wherein, each of R<sup>1</sup> to R<sup>18</sup>, which may be the same or different, represents a hydrogen atom, a halogen atom, a hydrocarbon group that may contain an oxygen atom or a halogen atom, or an alkoxy group that may have a substitutional group);

a curing agent (b);

a curing accelerator (c);

an inorganic filler (d); and

an additional epoxy resin (e), wherein

the (a) and (b) are essential ingredients, while the (c), (d); and (e) are optional ingredients.

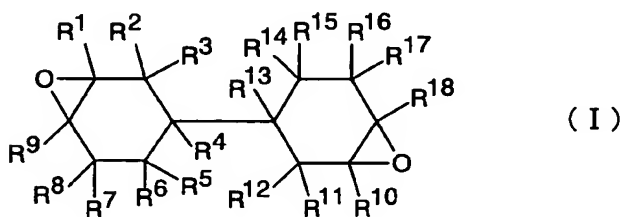
12. An epoxy resin composition for encapsulation of electronic parts according to claim 11, wherein the alicyclic diepoxy compound (a) represented by the formula (I) comprises bicyclohexyl-3,3'-diepoxide.

13. An epoxy resin composition for encapsulation of an electric component according to claim 11 or 12, wherein the curing agent (b) comprises at least one selected from an amine-based curing agent, an acid anhydride-based curing agent, and a phenol-based resin.

14. An epoxy resin composition for encapsulation of electronic parts according to claim 11 or 12, wherein the additional epoxy resin (e) comprises a cresol novolak-based epoxy resin.

15. A cured product obtained by curing the epoxy resin composition for encapsulation of electronic parts according to any one of claims 11 to 14.

16. A stabilizer for an electrical insulating oil, comprising an alicyclic diepoxy compound represented by a general formula (I):



(wherein, each of  $R^1$  to  $R^{18}$ , which may be the same or different,

represents a hydrogen atom, a halogen atom, a hydrocarbon group that may contain an oxygen atom or a halogen atom, or an alkoxy group that may have a substitutional group).

17. A stabilizer for an electrical insulating oil according to claim 16, wherein all of the  $R^1$  to  $R^{18}$  in the alicyclic diepoxy compound represented by the general formula (I) comprise a hydrogen atom.

18. A stabilizer for an electrical insulating oil according to claim 16 or 17, wherein the alicyclic diepoxy compound represented by the general formula (I) is obtained by epoxidization of a corresponding diolefin compound with an organic percarboxylic acid that contains substantially no water.

19. A stabilizer for an electrical insulating oil according to claim 18, wherein a water content of the organic percarboxylic acid is 0.8% by weight or less.

20. A stabilizer for an electrical insulating oil according to claim 18 or 19, wherein the organic percarboxylic acid comprises an organic solvent solution.

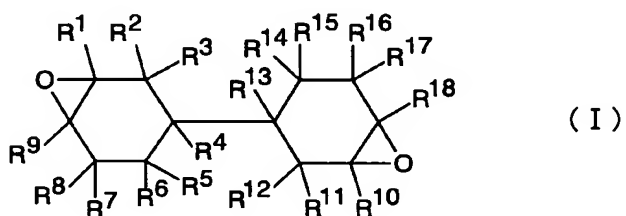
21. A stabilizer for an electrical insulating oil according to any one of claims 16 to 20, wherein the stabilizer comprises a stabilizer for an insulating oil used in a capacitor.

22. An electrical insulating oil characterized by being prepared by mixing 100 parts by weight of an insulating oil ingredient with 0.05 to 15 parts by weight of the stabilizer for an electrical insulating oil according to any one of claims 16 to 21.

23. A casting epoxy resin composition for electrical insulation, comprising a thermocuring resin and an inorganic filler, characterized in that:

the thermocuring resin includes:

(A) an epoxy resin composition composed of 5 to 80% by weight of an alicyclic diepoxy compound (a-1) represented by the following general formula (I):



(wherein, each of  $R^1$  to  $R^{18}$ , which may be the same or different, represents a hydrogen atom, a halogen atom, a hydrocarbon group that may contain an oxygen atom or a halogen atom, or an alkoxy group that may have a substitutional group), 95 to 20 % by weight of an epoxy compound (a-2) other than the alicyclic diepoxy compound (a-1) represented by the formula (I) [total of the alicyclic diepoxy compound (a-1) and the epoxy compound (a-2) is 100% by weight];

(B) an acid anhydride; and

(C) a curing accelerator;

and the thermocuring resin further contains:

(D) the inorganic filler; and

a mixing ratio of the ingredient (B) is in a range of 0.6 to 1.0 equivalent based on 1 equivalent of the ingredient (A), a mixing

ratio of the ingredient (C) is 0.5 to 10 parts by weight relative to 100 parts weight of the (A) and (B) in total, and a mixing ratio of the ingredient (D) is 30 to 80% by weight of a total amount of the ingredients (A) to (D).

24. A casting epoxy resin composition for electrical insulation according to claim 23, wherein the alicyclic diepoxy compound (a-1) represented by the general formula (I) comprises bicyclohexyl-3,3'-diepoxyde.

25. A casting epoxy resin composition for electrical insulation according to claim 23, wherein the acid anhydride comprises methylhexahydrophthalic anhydride or methyl norbornene dicarboxylic anhydride.

26. A casting epoxy resin composition for electrical insulation according to claim 23, wherein the curing accelerator comprises ethylene glycol or diazabicycloundecene.

27. A casting epoxy resin composition for electrical insulation according to claim 23, wherein the inorganic filler comprises a spherical fused silica or fused alumina.

28. A casting epoxy resin composition for electrical insulation according to claim 23, wherein the epoxy compound (a-2) comprises at least one of 3,4-epoxycyclohexylmethyl-3,4-epoxy cyclohexane carboxylate, a bisphenol-based epoxy resin, and a novolak phenol-based epoxy resin.

29. A cured product obtained by curing the casting epoxy resin

composition for electrical insulation according to any one of claims  
23 to 28.